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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,173	04/13/2004	Sundar Vasudevan	200314549-1	6366

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EXAMINER

SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 10/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/824,173

Applicant(s)

VASUDEVAN, SUNDAR

Examiner

Callie E. Shosho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,6,10,12-20,22,24,27-30 and 32-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 37-43 is/are allowed.
- 6) ☒ Claim(s) 1-3,12,13,17-20,29,30 and 36 is/are rejected.
- 7) ☒ Claim(s) 6,10,14-16,22,24,27,28 and 32-35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. All outstanding rejections are overcome by applicant's amendment filed 7/24/06.

The new grounds of rejection set forth below are necessitated by applicant's amendment and thus, the following action is final.

Claim Objections

2. Claims 2-3 and 19-20 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

(a) Claim 2, which depends on claim 1, recites that the "hydrophilic group is selected from the group consisting of fluoric acids, α and/or β fluorocarboxylic acids, and combinations thereof" while claim 1 has been amended to recite that the polymer includes styrene-vinylsulfonic acid copolymer, styrene-butyl acrylate-methacrylate acid-vinylsulfonic acid copolymer, styrene-trifluoroacrylic acid-vinylsulfonic acid, styrene- α -(trifluoromethyl)acrylic acid-vinylsulfonic acid copolymer, or styrene-trifluoroacrylic acid copolymer. Thus, claim 2 fails to further limit the scope of the claim on which it depends, namely, claim 1 given that while claim 1 is limited to polymer obtained from first monomer having hydrophilic group wherein the polymer includes those obtained from trifluoroacrylic acid or α -(trifluoromethyl)acrylic acid, claim 2 encompasses polymers obtained from any fluoric acids or α and/or β fluorocarboxylic

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acids, i.e. trifluoroacetic acid, pentafluoropropionic acid, etc., which is outside the scope of claim 1 which now recites specific polymers.

Similar objection arises with respect to claim 19, which recites similar claim language to claim 2, and depends on amended claim 18, which recites similar claim language to claim 1.

(b) Claim 3, which depends on claim 1, recites “wherein the hydrophilic group is a sulfonic acid” while claim 1 has been amended to recite that the polymer includes styrene-vinylsulfonic acid copolymer, styrene-butyl acrylate-methacrylate acid-vinylsulfonic acid copolymer, styrene-trifluoroacrylic acid-vinylsulfonic acid, styrene- α -(trifluoromethyl)acrylic acid-vinylsulfonic acid copolymer, or styrene-trifluoroacrylic acid copolymer. Thus, claim 3 fails to further limit the scope of the claim on which it depends, namely, claim 1 given that while claim 1 is limited to polymer obtained from first monomer having hydrophilic group wherein the polymer includes those obtained from vinylsulfonic acid, claim 3 encompasses polymers obtained from any monomer having a sulfonic acid group, i.e. styrenesulfonic acid, allylsulfonic acid, etc., which is outside the scope of claim 1 which now recites specific polymers.

Similar objection arises with respect to claim 20, which recites similar claim language to claim 3, and depends on amended claim 18, which recites similar claim language to claim 1.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-3, 12-13, 17-20, 29-30, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurabayashi (U.S. 6,790,878).

Kurabayashi discloses ink jet ink comprising liquid vehicle and polymer-dispersed pigment dispersed in liquid vehicle at pH of 3-8 wherein the polymer-dispersed pigment is pigment encapsulated with a polymer wherein the polymer is obtained from hydrophilic monomer such as vinyl sulfonic acid and (meth)acrylic acid and hydrophobic monomer such as styrene or alkyl (meth)acrylate. There is also disclosed system comprising substrate and ink jet pen containing the ink and method of printing an image comprising jetting the above ink onto substrate (col.1, lines 19-16, col.3, lines 50-52 and 58-67, col.4, line 66-col.5, line 4, col.6, lines 14 and 45-47, col.8, lines 1-21 and 34-36, col.9, lines 13-21, col.10, lines 1-2 and 11-16, and col.15, lines 30-47). Given that the polymer-dispersed pigment is dispersed in liquid vehicle at pH of 3-8, it is clear that the polymer-dispersed pigment is stable at such pH.

While Kurabayashi discloses the use of pigment encapsulated with a polymer wherein the polymer is obtained from hydrophilic monomer such as vinyl sulfonic acid and (meth)acrylic acid and hydrophobic monomer such as styrene or alkyl (meth)acrylate, there is no explicit disclosure of the use of styrene-vinyl sulfonic copolymer or styrene-butyl acrylate-methacrylic acid-vinyl sulfonic acid copolymer.

However, while Kurabayashi fails to exemplify the presently claimed ink nor can the claimed ink be "clearly envisaged" from Kurabayashi as required to meet the standard of anticipation (cf. MPEP 2131.03), nevertheless, in light of the overlap between the claimed ink and the ink disclosed by Kurabayashi, absent a showing of criticality for the presently claimed copolymers, it is urged that it would have been within the bounds of routine experimentation, as

well as the skill level of one of ordinary skill in the art, to use ink which is both disclosed by Kurabayashi and encompassed within the scope of the present claims and thereby arrive at the claimed invention.

Response to Arguments

5. Applicant's arguments regarding Arita et al. (U.S. 6,730,149), Nakamura et al. (U.S. 2003/01954274), Miyabayashi (U.S. 6,864,302), and WO 00/20520 have been fully considered but they are moot in view of the discontinuation of the use of these references against the present claims.

6. Applicant's arguments filed 7/24/06 have been fully considered but, with the exception of arguments relating to Arita et al., Nakamura et al., Miyabayashi, and WO 00/20520, they are not persuasive.

Specifically, applicant argues that the examiner has not established a *prima facie* case of obviousness given that while Kurabayashi discloses polymer obtained from monomer having hydrophilic group and monomer having hydrophobic group, there is no disclosure in Kurabayashi of specific polymer as now required in all the present claims. Applicants argue that the rejection utilizing Kurabayashi is based on an "obvious to try" standard.

However, it is noted that Kurabayashi discloses polymer-dispersed pigment, i.e. pigment encapsulated with polymer, wherein the polymer is obtained from monomer having hydrophilic group and monomer having hydrophobic group wherein the monomer having hydrophilic group includes vinyl sulfonic acid and the monomer having hydrophobic group includes styrene and

alkyl (meth)acrylates. While there are no examples that disclose specific polymer as presently claimed, “applicant must look to the whole reference for what it teaches. Applicant cannot merely rely on the examples and argue that the reference did not teach others”, *In re Courtright*, 377 F.2d 647, 153 USPQ 735,739 (CCPA 1967). A fair reading of the reference as a whole clearly discloses polymer obtained from monomer having hydrophilic group and monomer having hydrophobic group wherein, for instance, the monomer having hydrophilic group is vinyl sulfonic acid and the monomer having hydrophobic group is styrene as presently claimed.

While there is no explicit disclosure of styrene-vinylsulfonic acid copolymer or styrene-butyl acrylate-methacrylate acid-vinylsulfonic acid copolymer, it is the examiner’s position that an “obvious to try” standard has not been used given that Kurabayashi does in fact explicitly disclose the use of polymer that is obtained from monomers including those presently claimed. It would have been within the skill level of, as well as obvious to, one of ordinary skill in the art to choose monomer having hydrophilic group and monomer having hydrophobic group as presently claimed depending on the desired properties of the obtained polymer. Thus, absent evidence to the contrary, it would have been obvious to one of ordinary skill in the art to utilize polymer, including that presently claimed, in Kurabayashi and thereby arrive at the claimed invention.

Applicant also argues that there is no disclosure in Kurabayashi of polymer-dispersed pigment that is stable in liquid while at near-neutral pH as required in all the present claims.

However, it is significant to note that Kurabayashi discloses that the polymer-dispersed pigment is dispersed in liquid vehicle at pH of 3-8. Given this, it is clear that the polymer-dispersed pigment would be intrinsically stable at such pH.

Allowable Subject Matter

7. Claims 6, 10, 14-16, 22, 24, 27-28, and 32-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 6, 10, 22, 24, and 32-33 would be allowable if rewritten in independent form as described above given that there is no disclosure in the “closest” prior art Kurabayashi (U.S. 6,790,878) of ink comprising polymer-dispersed pigment wherein the polymer is obtained from first monomer having a hydrophilic group and second monomer having hydrophobic group wherein the polymer includes styrene-vinylsulfonic acid copolymer, styrene-butyl acrylate-methacrylate acid-vinylsulfonic acid copolymer, styrene-trifluoroacrylic acid-vinylsulfonic acid, styrene- α -(trifluoromethyl)acrylic acid-vinylsulfonic acid copolymer, or styrene-trifluoroacrylic acid copolymer wherein the first monomer is used in amount of from about 10% to about 50% and the second monomer is present in amount from about 25 to about 80% as required in present claims 6, 10, 22, 24, 32, and 33.

Claims 27-28 and 34-35 would be allowable if rewritten in independent form given that there is no disclosure in Kurabayashi of system for printing an image comprising first pen containing first ink jet ink and second ink-jet pen comprising second ink-jet fluid that comprises cationic component configured for reduced bleed when printed adjacent to the first ink as required in present claim 27 and no disclosure in Kurabayashi of method of printing an image comprising ink jet printing onto substrate first ink jet ink and second ink jet ink that comprises

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cationic component configured for reduced bleed when printed adjacent to the first ink as required in present claim 34.

Claims 14-16 would be allowable if rewritten in independent form given that there is no disclosure or suggestion in the "closest" prior art Kurabayashi et al. of ink jet ink comprising polymer-dispersed pigment wherein the polymer is styrene-trifluoroacrylic acid-vinyl sulfonic acid, styrene- α -(trifluoromethyl)acrylic acid-vinyl sulfonic acid copolymer, or styrene-trifluoro acrylic acid copolymer.

8. Claims 37-43 are allowable over the "closest" prior art Kurabayashi (U.S. 6,790,878) given that there is no disclosure or suggestion in Kurabayashi of ink comprising polymer-dispersed pigment wherein the polymer is a polymerization product of a first monomer having a hydrophilic group selected from the group consisting of fluoric acids, α and/or β fluorocarboxylic acids, and combinations thereof and second monomer having a hydrophobic group as required in present claim 37.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
10/14/06